Check List the journal of biodiversity data

NOTES ON GEOGRAPHIC DISTRIBUTION

Check List 11(2): 1599, March 2015 doi: http://dx.doi.org/10.15560/11.2.1599
ISSN 1809-127X © 2015 Check List and Authors

Dicranocentrus heloisae Arlé & Mendonça, 1982 (Collembola: Entomobryidae): first record of the genus in Espírito Santo state, Brazil

Thiago Xisto[1, 2*], **Maria Cleide de Mendonça**[1, 3] and **Eduardo Assis Abrantes**[1, 4]

1 Laboratório de Collembola, Setor de Apterygotologia, Departamento de Entomologia, Museu Nacional da Universidade Federal do Rio de Janeiro, Quinta da Boa Vista s/n, São Cristóvão, 20940-040, Rio de Janeiro, RJ, Brasil
2 Mestrando do Programa de Pós Graduação em Ciências Biológicas (Zoologia) do Museu Nacional
3 Professor Associado II do Museu Nacional
4 Pós-doutorando do Museu de Zoologia da Universidade de São Paulo, Serviço de Invertebrados, Laboratório de Lepidoptera, Avenida Nazaré 481, Ipiranga, 04263-000, São Paulo, SP, Brasil
* Corresponding author: E-mail: xistocollembola@gmail.com

Abstract: *Dicranocentrus heloisae* is an easily recognized species by color pattern. It was described from the "Parque Nacional da Tijuca" and its distribution was previously restricted to Tijuca Forest, located in Rio de Janeiro State. Here we report the second record for the specie with distance about 320 km from its type locality and first record of the genus in the Espírito Santo state.

Key words biodiversity, new record, Orchesellinae, springtails, taxonomy

The genus *Dicranocentrus* Schött, 1893 comprises springtails belonging to the subfamily Orchesellinae, which differs from other subfamilies of Entomobryidae primarily by the presence of five or six antennal segments (Figure 1) (Soto-Adames et al. 2008). Currently, *Dicranocentrus* includes 61 species from the Pantropical region (Bellinger et al. 2014), and four of them are described from Brazil: *D. bicolor* Handschin, 1924 (from Santa Catarina state), *D. termitophilus* Handschin, 1924 (from Minas Gerais state), *D. heloisae* Arlé & Mendonça, 1982 (from Rio de Janeiro state), and *D. amazonicus* Bellini, Morais & Oliveira, 2013 (from Amazonas state); another species, *D. silvestrii* Absolon, 1903 is recorded from Rio de Janeiro state (Abrantes et al. 2012; Bellini et al. 2013). Among these species, *Dicranocentrus heloisae* (Figure 2), was first recorded at "Parque Nacional da Tijuca" (22°57′13″ S, 043°17′29″ W), state of Rio de Janeiro, and is identifiable mainly by its yellow body and with bluish black pigmentation on the head (Arlé and Mendonça 1982). This species differs from its congeners by the conspicuous coloration, absence of cephalic macrochaetae S2, dens with more than 50 spines arranged in five rows in the inner basal portion, and two rows of spines on the external basal part (Arlé and Mendonça 1982; Najt et al. 1988). According to the literature (Abrantes et al. 2012; Bellinger et al. 2014), the distribution range of the species was previously restricted to the Tijuca Forest.

The collembolan fauna, in the southeastern Brazil, has been investigated by several authors in the last decades (Abrantes 2012). From Espírito Santo state only six species were described (Queiroz and Deharveng 2008; Fernandes and Mendonça 2010; Queiroz and Mendonça 2010; Queiroz and Fernandes 2011; Queiroz and Weiner 2011) and 27 species were recorded (Arlé 1939, 1981; Thibaud and Palacios-Vargas 1999; Potapov and Culik 2002; Culik et al. 2006; Fernandes and Mendonça 2010).

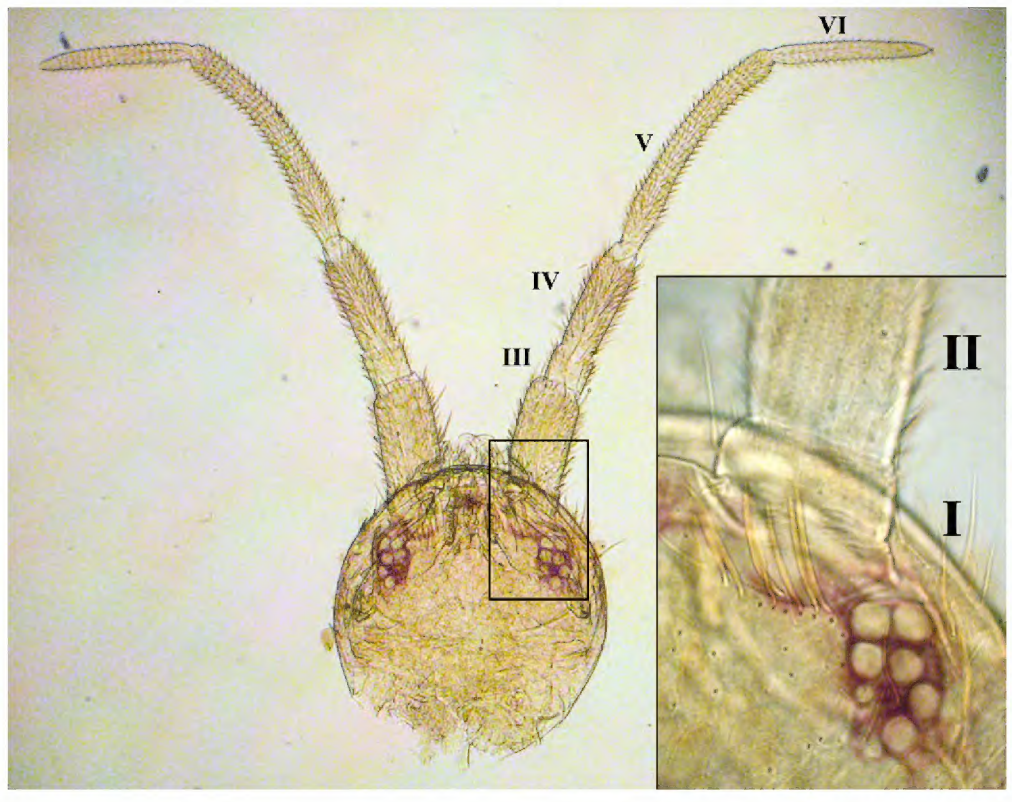

Figure 1. *Dicranocentrus heloisae* Arlé & Mendonça, 1982: dorsal view of head and antennae with detail to antennal segments I and II.

Figure 2. *Dicranocentrus heloisae* Arlé & Mendonça, 1982: lateral view, color pattern in ethanol.

Nevertheless, no records or descriptions of *Dicranocentrus* species were verified and recent material collected by one of the authors in "Serra do Caparaó" (Espírito Santo state), revealed the presence of *Dicranocentrus heloisae*.

The samples were collected by entomological aspirator in 19 November 2013, in the "Parque Nacional do Caparaó" (20°26′57.09″ S, 041°48′4.38″ W). These samples were authorized under License 40169-2/2013 issued by MMA/Chico Mendes Institute for Biodiversity Conservation (ICMBio) / SISBIO. Three specimens were obtained in an altitude of about 2,500 m. The specimens were preserved in 90% ethanol, fixed in a boiled ethanol and deposited in the Collembola Collection of the "Departamento de Entomologia" in "Museu Nacional do Rio de Janeiro / Universidade Federal do Rio de Janeiro" under acronym CM/MNRJ 2444 and CM/MNRJ 2445.

Figure 3. Map of Brazil with current distribution of *Dicranocentrus heloisae* Arlé & Mendonça, 1982 including the new record. Circle = type locality; diamond = new record (modified from IBGE 2015).

The range of this species with distance about 320 km from its type locality (Figure 3) expands its distribution and configures the first record of this genus for the Espírito Santo state. This record reflects the necessity of a greater effort of samples in areas not yet inventoried.

ACKNOWLEDGEMENTS

We thank to Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro (FAPERJ) for the financial support (E-26/111.504/2013), Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) for the master scholarship (T. Xisto), and Fundação de Amparo a Pesquisa do Estado de São Paulo (FAPESP) process n. 2012/12959-8 (E.A. Abrantes). We also thank to MSc. Gabriel Costa Queiroz and MSc. Tatiana Cristina da Silveira (LaCo, Museu Nacional/UFRJ) for helpful support in the expedition, and to the anonymous reviewers for the helpful suggestions.

LITERATURE CITED

Arlé, R. 1939. Quelques collemboles de l'etat d'Espirito Santo (Brésil). Physis 17:125–131.

Arlé, R. 1981. Conspecto das espécies brasileiras de Pseudachorutinae, com descrição de uma espécie nova da Colômbia (Insecta, Collembola). Acta Amazonica 11(3): 583–593.

Arlé, R. and Mendonça, M.C. 1982. Estudo preliminar das espécies de *Dicranocentrus* Schött, 1893, ocorrentes no Parque Nacional da Tijuca, Rio de Janeiro (Collembola). Revista Brasileira de Biologia 42(1):41–49.

Abrantes, E., B.C. Bellini, A.N. Bernardo, L.H. Fernandes, M.C. Mendonça, E.P. Oliveira, G.C. Queiroz, K.D. Sautter, T.C. Silveira and D. Zeppelini. 2012. Errata corrigenda and update for the "Synthesis of Brazilian Collembola: an update to the species list." ABRANTES et al. (2010), Zootaxa, 2388: 1–22. Zootaxa 3168: 1–21.

Bellini, B.C., J.W. De Morais and F.G.L. Oliveira. 2013. A new species of *Dicranocentrus* Schött (Collembola, Entomobryidae,

Orchesellinae) from Brazilian Amazon. Zootaxa 3709: 296–300. doi: 10.11646/zootaxa.3709.3.8

Bellinger, P.F., K.A. Christiansen and F. Janssens. 2014. Checklist of the Collembola of the world. Version 2014.07.22. Accessed at http://www.collembola.org, 5 August 2014.

Culik, M.P., D.S. Martins and J.A. Ventura. 2006. Collembola (Arthropoda: Hexapoda) communities in the soil of Papaya orchards managed with conventional and integrated production in Espírito Santo, Brazil. Biota Neotropica 6(3): 1–8.

Fernandes, L.H. and M.C. Mendonça. 2010. A new species of *Xenylla* (Collembola: Poduromorpha: Hypogastruridae) with new records for the state of Espirito Santo, southeastern Brazil. Zoologia 27(1): 123–127.

IBGE. 2015. Instituto Brasileiro de Geologia e Estatística. Accessed at http://mapas.ibge.gov.br/escolares/mapas-mudos, 14 January 2015.

Queiroz, G.C. and L. Deharveng. 2008. Description of a new species of *Paraxenylla* (Collembola, Hypogastruridae) from Brazil, with comments on the genus. Zootaxa 1858: 1–8.

Queiroz, G.C. and M.C. Mendonça. 2010. Two new Isotomidae species (Collembola) from Espírito Santo state, Brazil. Zootaxa 2480: 37–44.

Queiroz, G.C. and L.H. Fernandes. 2011. New Brazilian species of *Furculanurida* Massoud, 1967 (Collembola: Neanuridae). Zootaxa 2805: 57–64.

Queiroz, G.C. and W.M. Weiner. 2011. A new species of *Brachystomella* (Collembola: Brachystomellidae) from the Atlantic Forest of southeast Brazil. Zootaxa 2885: 65–68.

Najt, J., J.M. Thibaud and J.A. Mari-Mutt. 1988. Collemboles (Insecta) de l'Equateur 3. Entomobryidae: Orchesellinae. Bulletin du Museum National d'Histoire Naturelle, Section A Zoologie Biologie et Ecologie Animales 10(3): 553–561.

Potapov, M. and M. Culik. 2002. A new species of Folsomia (Collembola: Isotomidae) from Brazil, with notes on foil-setae in the *fimetaria* group. Pan-Pacific Entomologist 78(2): 69–73.

Soto-Adames, F.N., J-A. Barra, K. Christiansen and R. Jordana. 2008. Suprageneric classification of Collembola Entomobryomorpha. Annals of the Entomological Society of America 101(3): 501–513.

Thibaud, J-M. and J.G. Palacios-Vargas. 1999. Brazilian collembola from litoral sand with description of Austrogastrura gen. n. and Isotomodes carioca sp. n. [Hypogastruridae; Isotomidae]. Revue Française d'Entomologie 21(1): 25–31.

Authors' contribution statement: All authors contribute in all stages of the manuscript (write of the text, figures edition and review of literature). TX collected the sample at the new locality.

Received: August 2014
Accepted: February 2015
Editorial responsibility: Ricardo R. C. Solar